



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,868	01/13/2004	Joseph P. Odenwalder	PA298B2A3D1	3404

23696 7590 10/17/2006
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER

TSE, YOUNG TOI

ART UNIT	PAPER NUMBER
----------	--------------

2611

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

51

Office Action Summary

Application No.

10/756,868

Applicant(s)

ODENWALDER, JOSEPH P.

Examiner

YOUNG T. TSE

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in paragraph [0001], lines 1 and 2, the Applicant is requested to update the application serial Nos. 09/785,925 and 08/856,428, now U. S. Patent No. 6,678,311 and abandoned, respectively. Appropriate correction is required.
2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 2-9, 15 and 34 are objected to because of the following informalities:

In claim 2, lines 1 and 2, "a plurality of" and "an associated code" should be "the plurality of" and "the associated code".

In claim 5, line 4 (first occurrence) and line 6, "stream" should be "streams".

In claim 5 (line 5), claim 7 (line 5), and claim 9 (line 7), "stream separately" should be "stream of modulated symbols separately".

Claims 3-4, 8 and 15 are objected to because they are either directly or indirectly depended upon claim 2.

In claim 17, line 4, "stream to" should be "stream of modulated symbols to".

In claim 34, line 1, "claim 16, wherein said plurality of adjusters" should be "claim 33, wherein said plurality of gain adjusters" in order to avoid the antecedent basis of "said plurality of adjusters"; line 3, "a first adjuster" should be "a gain adjuster"; and line 6, "stream to" should be "stream of modulated symbols to".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims 1-34 contain new matters which was not described in the original specification, the original disclosure of the drawings, and the original claims in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

For example, claim 18 recites an apparatus shown in Fig. 2 for generating data for transmission from a subscriber unit (100) to a base station (120), the apparatus comprising: a plurality of modulators (150b to 150d) shown in Fig. 4 of the modulator

(104) of Fig. 2 configured to modulate each of a plurality of channel encoded data from the encoders (102 and 103) with an associated code (W_2 or W_3) to produce a plurality of streams of modulated symbols; a combiner (160), communicatively coupled to said plurality of modulators, configured to combine the plurality of streams of modulated symbols into two combined streams to reduce a peak-to-average ratio of the transmission; and a complex multiplier (164a to 164d and 166a to 166b), communicatively coupled to said combiner, configured to complex multiply said two combined streams with a complex pseudonoise code (PN_I or PN_Q). However, according to the modulator 104 shown in Fig. 4, the two combined streams appear to be streams 161 and 163, only the stream 161 is provided by the combiner 160, the other stream 163 is provided from an A_3 gain adjuster 158b, in other words, the combiner 160 doesn't provide two combined streams to reduce a peak-to-average ratio of the transmission. Further, the specification fails to explain that the combiner 160 is used to reduce a peak-to-average ratio of the transmission as now claimed.

With respect to claim 19, the apparatus recites that the plurality of modulators comprises a first modulator configured to modulate a pilot channel encoded data with a first code to produce a first stream of modulated symbols. However, as shown in Fig. 4, there is no modulator used to modulate a pilot channel encoded data with a first code to produce a first stream of modulated symbols since the pilot signal is directly input to the A_0 gain adjuster 152 and is an uncoded signal.

With respect to claim 20, the combiner 160 does not include two adders to perform the functions as claimed. Also see claims 22, 24 and 26.

With respect to claim 23, a fourth modulator (150a) is not used to modulate a control channel encoded data with a fourth code (W_1) to produce a fourth stream of modulated symbols since the power control signal (PC) is an uncoded signal. Also see claim 25.

With respect to claim 34, it is unclear which gain adjuster is considered the first gain adjuster and which gain adjusters are considered the second plurality of adjusters configured to adjust gains of each of the remaining streams to values determined relative to the gain of the first stream as shown in Fig. 4. The specification also fails to explain the operation of the gain adjusters performed the claim subject matters as now claimed.

Also see the method claims 1-17 which have similar subject matters as recited in the apparatus claims 18-34 for the same reasons described above.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 5, 9, 12-14, and 29-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5 (lines 5-6), claim 12 (lines 2 and 4), claim 13 (lines 3, 5, 7 and 9), claim 14 (line 1), claim 29 (lines 3 and 5), claim 30 (lines 3, 5, 7 and 9), and claim 31 (line 1), the phrases "the third stream of modulated symbols", "the first stream of modulated data", "the fourth stream of modulated data", "the at least one combined streams", "the

first combined stream", "the second combined stream", and "the plurality of associated codes" all lack antecedent basis.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1, 10-12, 16, 18, 27-29 and 33 are rejected under 35 U.S.C. 102(a) as being anticipated by Dahlman et al. U. S. Patent No. 5,896,368 (hereinafter "Dahlman").

Dahlman discloses a base station transmitter 150 in Fig. 2C for receiving combination signals from each of downlink traffic information processors 200A to 200K. The detail embodiment of each of the downlink traffic information processors 200A to 200K is shown in Fig. 2A. The detail embodiment of each of the short-code modulators 210a to 210M of the downlink traffic information processors 200 of Fig. 2A is shown in Fig. 2B.

With respect to claims 1 and 18, each of the downlink traffic information processors 200A to 200K comprises a plurality of modulators (280) configured to modulate each of a plurality of channel encoded data (from the convolutional encoder 230) with an associated code (from short code generator) to produce a plurality of streams of modulated symbols; a combiner (215 or 290), communicatively coupled to the plurality of modulators, configured to combine the plurality of streams of modulated

symbols into two combined streams to reduce a peak-to-average ratio of the transmission; and a complex multiplier (300 and 302), communicatively coupled to the combiner, configured to complex multiply the two combined streams with a complex pseudonoise code (from base station long-code generator 285).

With respect to claims 10 and 27, the complex pseudonoise code comprises an in-phase pseudonoise code component (I-channel PN sequence) and a quadrature-phase pseudonoise code component (Q-channel PN sequence).

With respect to claims 11 and 28, the in-phase pseudonoise code component and the quadrature-phase pseudonoise code component are multiplied by a long code (285).

With respect to claims 12 and 29, the complex multiplier is configured to: using a first of the at least one combined streams and the in-phase pseudonoise code component as real parts; and using a second of the at least one combined streams and the quadrature-phase pseudonoise code component as imaginary parts.

With respect to claims 16 and 33, a plurality of gain adjusters (power control bits shown in Fig. 2B) is configured to adjusting gain of the plurality of streams of modulated symbols (col. 6, lines 49-54).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

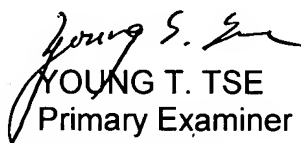
The prior art references Zehavi, Gilhousen et al., Gitlin et al., Ohlson, Halpern, and Levin et al. are all related to transmitters comprising a plurality of modulators for modulating encoded data streams with associated codes to provide a combined signal and a complex modulator for modulating the combined signal with either PN codes or carriers signals for transmission.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


YOUNG T. TSE
Primary Examiner
Art Unit 2611